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today was not written for publication and
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Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SRIVATSA KRISHNASWAMY,
FRANZ KOPPOLD, SRINIVAS VARADARAJAN,
SUBBRAYA SHAILESH KUMAR DAVE
and RAMAMURTHY SHAMASAstry

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PAT. & T.M. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Appeal No. 2002-0760
Application No. 09/049,676

HEARD: FEBUARY 26, 2003¹

Before THOMAS, KRASS and DIXON, Administrative Patent Judges.

THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

Appellants have appealed to the Board from the examiner's final rejection of claims 1-34.

Representative claim 1 is reproduced below:

1. A method for transferring messages among an application program and a plurality of protocol layers in a communication subsystem of a computer using a communication subsystem controller, the computer being connected to a communication network and having a memory and at least one processor, the method comprising the steps of:

¹ The Oral Hearing was rescheduled from February 18, 2003 due to inclement weather.

building a protocol stack using the plurality of protocol layers and the communication subsystem controller, wherein the communication subsystem controller forms interfaces between the application program and its adjacent protocol layer in the protocol stack and at least between a pair of adjacent protocol layers in the protocol stack for transferring messages;

enabling the adjacent protocol layer to the application program to be an application service provider in response to the application program;

enabling a first protocol layer in the pair of adjacent protocol layers in the protocol stack to be a protocol service provider in response to a second protocol layer in the pair of adjacent protocol layers in the protocol stack;

transferring messages between the application program and the application service provider, further including the steps of:

transferring messages between the application program and the communication subsystem controller, and

transferring messages between the communication subsystem controller and the application service provider; and

transferring messages between the second protocol layer and the protocol service provider, further including the steps of:

transferring messages between the second protocol layer and the communication subsystem controller, and

transferring messages between the communication subsystem controller and the protocol service provider.

The following references are relied on by the examiner:

Choquier 5,774,668 June 30, 1998
(filing date June 7, 1995)

Pearson 5,903,754 May 11, 1999
(effective filing date June 21, 1994)

Claims 1-34 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon Choquier in view of Pearson.

Rather than repeat the positions of the appellants and the examiner, reference is made to the briefs and the answer for the respective details thereof.

OPINION

As generally set forth in the answer, we sustain only the rejection of claims 15-20 on appeal under 35 U.S.C. § 103. Since appellants have indicated at page 5 of the principal brief on appeal that all claims on appeal stand as a single group, we take as a representative claim for our consideration independent claim 1 on appeal. However, independent claim 15 is broader than claim 1 and its corresponding independent claim 21.

At the outset, we note that appellants' prior art Figure 1 sets forth a general environment of the subject matter of the claimed invention which is a part of the prior art, a centralized business system. This system has been modified in accordance with appellants' disclosure in system Figure 3 where various application programs such as server programs, gateway application programs and client programs are each respectively controlled by a communication subsystem controller utilizing a single protocol

stack. This architecture is set forth in more detail in disclosed Figure 4. However, it is noted further that the prior art system in Figure 1 communicates in a manner consistent with the showing of prior art Figure 2 discussed generally at pages 3 and 4 of the specification as filed. There, a prior art protocol stack of protocol layer 206 and protocol layer 208 comprise an adjacent pair or stack of protocols, which directly send messages 204 to each other through the interface 202 therebetween at various service access points 210. It is this very same concept of protocol layers that is detailed according to appellants' disclosed invention. Similarly, each of the respective references to Choquier and Pearson have similar embellishments upon the same protocol architecture in appellants' prior art Figure 2.

Our study of both references relied upon by the examiner leads us to conclude that the examiner has essentially properly set forth a nutshell of a valid rejection within 35 U.S.C. § 103 according to the teachings, showings and suggestions of both references only as to claims 15-20. Broadly speaking, the examiner's correlation of various teachings of Choquier to the subject matter of representative independent claim 1 on appeal at pages 3 and 4 of answer is consistent with our understanding of this reference. It is true, as the examiner has isolated at page

4, that Choquier does not specifically disclose the details of building the protocol stack in this reference, yet, as we shall show, there is such a specifically disclosed protocol stack taught and shown in this reference to the extent broadly recited. The building aspect of it is the only part that is not shown in Choquier to which the specifics are detailed according to the examiner's rationale in Pearson which teaches in the abstract the ability of his invention to dynamically build a protocol stack for use by communication programs to establish data transfer protocols. However, Choquier's stack was obviously "built."

From our study of Choquier, the most specific are Figures 1, 2, 5A, 5B and Figure 10 that are pertinent to the subject matter of independent claim 1 on appeal. The broad architecture of system Figure 1 of Choquier is consistent with appellants' disclosed invention as well as appellants' prior art Figure 1. This is detailed slightly more specifically in Figure 2. The examiner has correctly identified Figures 5A and Figures 5B as having the greatest pertinence to the subject matter of independent claim 1 on appeal. The corresponding columnar discussion of each of the earlier-noted figures indicates that their client application programs 500A exist within the client microcomputer 102, for example. According to the discussion in Figures 5A, 5B, these client applications directly "interface"

in the same manner as the interfacing of appellants' Figure 2 functions with the first layer of the stack of protocol layers including MPC layer (the Microsoft procedure call layer), then to the MCP layer 208 (the Microsoft connection protocol layer), which in turn connects to the modem engine layer 508 of Figure 5A or the network layer 508a in Figure 5B. It is thus seen that, in accordance with the subject matter of independent claim 15 on appeal that the client applications program 500 interfaces directly with the MPC layer 502 which in turn interfaces directly with respect to the remaining two respective layers.

Contrary to the assertions of the examiner at the top of page 4 of the answer that the two transferring messages clauses at the end of representative claim 1 on appeal are met by teachings in Choquier, it is clear to us from the understanding at column 8 as well as the discussion of Figures 5A and 5B at columns 12 and 13 of Choquier that this reference teaches only the direct interfacing among the plurality of protocol layers consistent with appellants' prior art Figure 2. The requirements of the two transferring messages clauses at the end of claim 1 and independent claim 21 on appeal are that the communication system controller in effect perform this interfacing operation as an intermediary between the protocol layers. These two

transferring messages clauses are not recited in independent claim 15 on appeal.

In one respect, the examiner's basic rationale is incorrect in that Choquier does in fact show that a protocol stack as just described has been "built" which operates with a communication subsystem controller comprising representative client computer 102. On the other hand, to the extent that the protocol stack as just described in Choquier is not built or is not dynamically built, the examiner is correct in offering the teachings and showings in Pearson as an obvious enhancement to the existing protocol stack layer in Choquier since the basic functionality of Pearson is established well within the abstract, the ability to dynamically build protocol stacks that are readily modifiable by simply modifying the protocol layer descriptions in rebuilding the protocol stack rather than in accordance with the prior art disadvantages at the bottom of claim 1 of Pearson of having to modify the entire program. This, in effect, correlates functionally to appellants' disclosed invention in accordance with the statement at the top of page 11 of the specification as filed that the "task of building protocol stacks is greatly reduced since each protocol layer needs to be implemented to be able to interoperate only with the CSC (Communication Subsystem

Controller) and not the multitude of protocol layers which it may have to interoperate with." Specification page 11, lines 5-7. This is the essence of the last half of independent claims 1 and 21 on appeal. Although the examiner's statement of combinability is rather crudely stated at the top of page 5 of the answer, the examiner's rationale of combinability is better stated in the paragraph bridging pages 11 and 12 of the answer in the responsive arguments portion thereof.

When the teachings and suggestions of both references relied upon by the examiner in formulating the rejection of claims 15-20 on appeal are taken in the light as embellished upon by us in the previous paragraphs, we are unpersuaded by appellants' arguments in the brief and the reply brief. The assertion that the examiner has not set forth the desirability for the modification is not well-founded because Pearson clearly teaches the problems known in the art at columns 1 and 2 and his solution to the problems in the art, which is essentially consistent with appellants' own assessment of the prior art in a similar solution thereof. The assertion at pages 8 and 9 of the principal brief on appeal that there is essentially claimed a single protocol stack is consistent with our general reading of representative independent claims 1, 15 and 21 on appeal. The claimed "a protocol stack" set forth in the building clause of these claims

is subsequently referred back to twice in that clause by the use of the words "the protocol stack." Still, our assessment of Choquier's single protocol stack set forth earlier in this opinion makes clear that a single stack in Choquier is analogous to the single stack claimed. Moreover, Pearson's single protocol stacks 38 and 40 in Figure 1 are also detailed in Figure 3 to be comprised of plural layers which are stated and shown to interface with each other as claimed. Note the single protocol stack 90 in Figure 3. Additionally, the discussion at the top of column 8 at lines 7 through 9 indicate that each computer 10/12 has only one stack therein for purposes of our consideration.

As to appellants' arguments in the reply brief, the appellants take issue with the examiner's characterization of Choquier's teachings in the responsive argument's portion of the reply brief indicating the Choquier provides merely a skeletal view of the interfaces between the protocol layers. The examiner's characterization of certain inefficiencies of Choquier is well taken and is consistent with the prior art discussion at column 1 of Pearson. As recognized by appellants at the bottom of page 5 of the reply brief, the MCP layer 208 is shown in Figure 10 to comprise two layers itself, which, according to the claimed invention, may further comprise the claimed pair of adjacent protocol layers. As explained earlier by us in this

opinion as well as in detail according to the discussion of Figures 5A and 5B at columns 10 and 12 of Choquier, the inter-communication between the various levels occurs at various "interfaces." In accordance with the examiner's position, it is implicit that the examiner has read the various layers of Choquier onto the claimed invention. Appellants recognize at the top of page 6 of the reply brief that the MCP layer is comprised of two layers and recognizes that the two layers may communicate with each other, it is not understood how appellants can then assert that the MCP layer does not interface between them since the MCP layer comprises two layers as depicted in Figure 10. It is clear from the discussion associated with Figures 5A and 5B that the MPC layer 502 does communicate with the MCP layer 208, which communication is clearly shown as well in Figure 10 of Choquier. The depiction in Figure 10 of the X.25 layer is consistent with the modem engine layer 508 in Figure 5A and the network layer 508a in Figure 5B.

Significantly, Pearson uses his equivalent communication system controller in system Figure 1 to broadly "form" the interfaces between the protocol layers, that is, the building clause of independent claims 1, 15 and 21 on appeal. However, Pearson does not explicitly use his corresponding communications subsystem controller to directly interface or transfer messages

between the various protocol layers which is set forth in the last half of independent claims 1 and 21 on appeal as noted earlier in this opinion. The absence of the requirement of these two independent claims is shown in Figure 3 where, as in appellants' prior art Figure 2 as disclosed, the communication occurs directly between the protocol layers in the same manner as in Choquier. Once the stack is formed in Pearson, the protocol layers directly interface with each other as in the prior art. Thus, there is no teaching or suggestion among both references relied upon by the examiner to meet the distinguishing features of the last half of each of independent claims 1 and 21 on appeal. Accordingly, the rejection of these claims and their respective dependent claims must be reversed.

In closing, we note in passing that the subject matter of independent claim 15 on appeal appears to us to be substantially met if not completely met by the teachings and showings of Choquier alone. We make a similar observation with respect to Pearson as well. The artisan may well have considered the software architecture of Choquier's Figures 5A and 5B as being representative of the disadvantaged prior art approaches of integrated communication programs discussed at the bottom of column 1 of Pearson. As best stated at lines 63-65, to "change the protocol, rather because of errors in the original protocol

or because of modifications to the protocol, the entire program must be replaced." The software architecture in Pearson overcomes these disadvantages by providing the ability to dynamically build a protocol stack, such as the types argued earlier to be present in Choquier, by replacing fixed code segments within the communication program with dynamically modifiable ones by the use of stack description files, dynamic link libraries as well as the stack builder routine itself. The artisan would have found this highly advantageous and desirable in the art. Moreover, both references use what amounts to their CSC to "form" the interfaces between layers as broadly recited in independent claims on appeal.

In view of the foregoing, the decision of the examiner rejecting claims 1-34 under 35 U.S.C. § 103 is affirmed only as to claims 15-20.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

James D. Thomas)
Administrative Patent Judge)
Errol A. Krass)
Administrative Patent Judge) BOARD OF PATENT
Joseph L. Dixon) APPEALS AND
Administrative Patent Judge) INTERFERENCES

JDT/cam

Appeal No. 2002-0760
Application 09/049,676

Hewlett Packard Company
Legal Dept. 20BN
P. O. Box 10301
Palo Alto, CA 94303-0890